

Notice of Allowability	Application No.	Applicant(s)	
	10/781,861	NISHIDA ET AL.	
	Examiner	Art Unit	
	Matthew E. Warren	2815	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the Election and Amendment filed on July 3, 2006.
2. ☒ The allowed claim(s) is/are 1-6, 23-25, 32 and 33.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| <ol style="list-style-type: none"> 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date <u>2/20/04, 4/1/04.</u> 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | <ol style="list-style-type: none"> 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance 9. <input checked="" type="checkbox"/> Other <u>See Continuation Sheet.</u> |
|---|--|

Continuation of Attachment(s) 9. Other: IDS cont'd : 11/21/05, 2/14/06, & 3/2/06.

DETAILED ACTION

This Office Action is in response to the Election and Amendment filed on July 3, 2006.

Election/Restrictions

Applicant's election without traverse of Species I in the reply filed on July 3, 2006 is acknowledged. However, the applicant amends claims 26 and 29 so that they may be included in Species I. The examiner will maintain the previous Species Restriction in that Species I includes claims 1-6, 23-25, and added dependent claims 32 and 33 which pertain to the invention of Figs. 1 and 15 while Species II includes claims 26-31 which pertain to the invention of Figs. 69-96.

Therefore, claims 26-31 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim.

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

The application has been amended as follows:

This application is in condition for allowance except for the presence of claims directed to the species non-elected without traverse. Accordingly, claims 7-10, 21, 22, and 26-31 have been cancelled.

Allowable Subject Matter

Claims 1-6, 23-25, 32, and 33 are allowed.

The following is an examiner's statement of reasons for allowance: the prior art references, alone or in combination, do not show a semiconductor integrated circuit comprising: a memory cell having first and second transfer MISFETs, first and second drive MISFETs and first and second load MISFETs, wherein a first capacitor element is formed over the sidewall and bottom of a first opening, the first capacitor having as a lower electrode, a first conductive film formed along the sidewall and bottom of the first opening, wherein the lower electrode forms a first storage node of the memory cell by electrically connecting a drain of the first drive MISFET, a drain of the first load MISFET, a gate electrode of the second drive MISFET and a gate electrode of the second load MISFET, and a second storage node of the memory cell by electrically connecting a drain of the second drive MISFET, a drain of the second load MISFET, a gate electrode of the first drive MISFET and a gate electrode of the first load MISFET, wherein the first capacitor element is electrically connected between the first storage node and second storage node, and the supply voltage line, between the first storage node and second storage node, and the reference voltage line, or between the first storage node and the second storage node. The closest reference, Hashimoto et al. (US 5,780,910) shows

(fig. 4) a schematic of circuit in which the first capacitor element is electrically connected between the first storage node A and the second storage node B, but does not specifically show that the lower electrode forms a first storage node of the memory cell by electrically connecting a drain of the first drive MISFET, a drain of the first load MISFET, a gate electrode of the second drive MISFET and a gate electrode of the second load MISFET, and a second storage node of the memory cell by electrically connecting a drain of the second drive MISFET, a drain of the second load MISFET, a gate electrode of the first drive MISFET and a gate electrode of the first load MISFET.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Hashimoto et al. (US 5,780,910), Liaw (US 6,649,456 B1) and Ootsuka et al. (US, 6,635,937 B2) each show SRAM devices comprising MISFETs and a capacitor connected to the memory cell, but do not disclose the specific configuration of the lower electrode of the capacitor connecting the drains and gates of the first and second drive and load MISFETs.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew E. Warren whose telephone number is (571)

272-1737. The examiner can normally be reached on Mon-Thur and alternating Fri 9:00-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth Parker can be reached on (571) 272-2298. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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September 18, 2006



KENNETH PARKER
SUPERVISORY PATENT EXAMINER